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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/872,412	06/01/2001	David C. Banks	112-0030US	2661

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EXAMINER

GREY, CHRISTOPHER P

ART UNIT PAPER NUMBER

2616

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/06/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/872,412

Applicant(s)

BANKS ET AL.

Examiner

Christopher P. Grey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 10-14, 20-28 and 31-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-7 and 10-14 is/are allowed.
- 6) ☒ Claim(s) 20-22 and 31-45 is/are rejected.
- 7) ☐ Claim(s) 23-28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 20-22, 31, 35, 39 and 42 are rejected under 35 U.S.C. 102(b) as being anticipated by Opsasnick et al. (US 6434145)

Claim 20 Opsasnick discloses transmitting frames of data from a first switch (fig 4, 140) to a second switch (fig 4, 144 and col 8 lines 15-17 and Col 4 lines 20-26) via a plurality of links (fig 1, 160).

Opsasnick discloses a group/trunk (fig 2, 160I.x) of links (page 1 paragraph 0005).

Opsasnick discloses a plurality of first and second ports (fig 1 and 2, 114 and 118, system capable of multiple ports, Col 8 lines 17-28)). First ports are coupled to a first switch and the second ports being coupled to a second switch (fig 1, ports 118 are coupled to switch 144, and ports 114 are coupled to switch 140, where the system is capable of having multiple ports 114 and/or 118).

Opsasnick discloses a pair of transmit and receive ports selected respectively from one of the first ports and from one of the second ports, the transmit port routing frames received at the first switch across the group to the second switch (fig 1 and 2,

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ports 114 and 118 are capable of forwarding data to further ports and channels (Col 4 lines 1-67)

Claim 21 Opsasnick discloses the switch forwarding data packets to one of the egress port queues (fig 2, 210 and associated description) before data packets are forwarded (routed) on the corresponding links (fig 2, 160l.x.).

Opsasnick discloses data packets being evenly distributed among the physical links (parallel data flows, Col 5 lines 17-25).

Claim 22 Opsasnick discloses second queuing logic coupled to the receive port, the second queuing logic enabling frames routed across the group to be received at the second switch according to an order of arrival (Col 5 lines 6-67).

Claim 31 Opsasnick discloses receiving frames for transmission to the second switch at the first switch in order.

Opsasnick discloses queuing the received frames between the plurality of first ports.

Opsasnick discloses data packets being evenly distributed among the physical links (page 5 paragraph 0061).

Opsasnick discloses transmitting the queued frames between the plurality of first ports to the plurality of second ports so that the frames are received at the plurality of second ports in order as received at the first switch (abstract, Col 4 lines 40-47 and Col 4 lines 59-63).

Claim 35, 39, 42 Opsasnick discloses a first network device having two ports (fig 1 and 2, 114 and Col 8 lines 14-29, multiple ports).

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Opsasnick discloses a second network device having two ports (fig 1 and 2, 118 and Col 8 lines 14-29, multiple ports).

Opsasnick discloses two links connecting the two ports of the first network device to the two ports of the second network device (fig 1 and 2, 134).

Opsasnick discloses the first network device including;

 Queuing logic for queuing frames to be transmitted to the second network device (fig 2, 210 and see description);

 Distribution logic for evenly distributing the queued frames between the two ports (fig 2, block 154 GE and Col 5 lines 17-25).

Opsasnick discloses transmitting logic for transmitting the queued frames from the two ports over the two links so that the frames are received at the two ports of the second network device in order (Col 8 lines 14-41, block 150 in fig 2 ensured in order delivery of frames transmitted from multiple ports as described).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 32, 33, 34, 36, 37, 38, 40, 41, 43 and 45 are rejected under 35 U.S.C.

103(a) as being unpatentable over Opsasnick et al. (US 6434145) in view of Bartow et al. (US 5455831), hereinafter referred to as Bartow.

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Claim 32, 36, 40, 43 Opsasnick does not specifically disclose determining skew values for the plurality of links, and wherein the transmitting of frames uses the determined skew values to control timing of the transmission of frames.

Bartow discloses determining skew values for the plurality of links, and wherein the transmitting of frames uses the determined skew values to control timing of the transmission of frames (abstract and Col 3 lines 22-31 and Col 14 lines 12-46).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to combine the method of determining skew value and transmitting data based on these values as disclosed by Bartow, within the method of transmitting frames of data from one device to another with in order reception as disclosed by Opsasnick. The motivation for this combination is to achieve synchronism for each member of the bus which data is transmitted through (abstract).

Claim 33, 37, 44Opsasnick does not specifically disclose the skew values being one way skew values.

It would have been obvious to one of the ordinary skill in the art at the time of the invention from the rejection of claim 32, that if a skew value can be determined, the skew value may be that of a one-way skew value depending on a designers preference.

Claim 34, 38, 41, 45 Opsasnick discloses operating in a multi-protocol environment (see background and summary).

Opsasnick does not specifically disclose the first network device being a fibre channel device.

Bartow discloses optical lines and transmission.

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It would have been obvious to one of the ordinary skill in the art at the time of the invention that the optical environment as disclosed by Bartow may be employed within the multi-protocol environment disclosed by Opsasnick.

Allowable Subject Matter

2. Claims 1-7 and 10-14 are allowed.
3. Claim 23 (with dependant claims 24, 25, 26, 27, 28) is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

4. Applicant's arguments filed on January 11, 2007 have been fully considered but they are not persuasive.

(a) The applicant argued that the cited art does not disclose the applicants claimed first and second switch as pertains to claim 20.

The examiner maintains that the claimed limitation is disclosed within the cited art, wherein Opsasnick discloses an ATM/first switch (fig 1, 144) in communication with MAC (fig 1, 140, where the MAC is inherently associated with a physical layer device <switch> as disclosed in Col 4 lines 6-8). Therefore, Opsasnick discloses an

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ATM switch in communication with MAC ports, where the MAC port is part of a physical layer device (switch).

(b) The applicant argued that the cited art does not disclose the applicants claimed plurality of links, as pertains to claim 20.

The examiner maintains that the claimed limitation is recited within the cited art, as Opsasnick discloses a number of channels 134 in fig 1 dedicated for the communication between two switches. The examiner makes note that by definition a link is another name for a communication channel or circuit.

(c) The applicant argued that the cited art does not disclose a group including selected ones of the links.

The examiner makes note that the claim does not specify or define the group and its links. Therefore the claim is interpreted in its broadest scope, wherein any and/or all links are equivalent to a group.

(d) The applicant argued that the cited art does not disclose the applicants plurality of first and second ports.

The examiner disagrees with the applicants contention, and points out Col 8 lines 18-20, which disclose multiple ports at 114 and 118, where 114 and 118 are coupled to the ATM switch and MAC/physical layer device (2nd switch) as disclosed in the preceding response to arguments (a).

(e) The applicant argues that the rejection of claim 20 does not address ends being coupled to first ports and second ports.

The examiner would like to point out that this argument is going to be addressed, but has no true substance. The preceding response to arguments give a clear explanation of how two switches interact with each other through a plurality of channels/links. Fig 1 depicts ends coupling the two switches, however there is no need to point this out, due to the fact that by definition and inherency, the link couple the two switches using their ends.

(f) Further arguments pertaining to claim 20 appear to rely on the applicants arguments that have been addressed above. The examiner relies on the response to arguments above in order to clarify and explain these further arguments.

(g) The applicant argued with regards to further claims, that the cited art does not disclose the applicants claimed receiving frames at the second port in order as received at the first switch.

The examiner maintains that the cited art discloses receiving at a receiving queue data, arranging it in order, and sending it to a receive port, where the receive port thus receives the data in the same manner as which the data was sent. Inherency allows one to realize that a chain of switches can transmit and receive this data in such a manner, allowing a number of switches to receive and send the data in the same order.

Conclusion

5. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

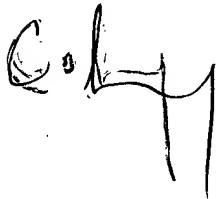
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher P. Grey whose telephone number is (571)272-3160. The examiner can normally be reached on 10AM-7:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on (571)272-7629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Christopher Grey
Examiner
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KWANG BIN YAO
SUPERVISORY PATENT EXAMINER

